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ABSTRACT

The literature and typical approaches to reducing attrition among college students are critiqued, and a strategy for the identification of different interventions likely to have positive effects on retention rates of different student subgroups is proposed. It is claimed that a small sample approach to empirical testing of the combinations of interventions and student subgroups should yield over time an inventory of interventions with particular subgroups and corresponding evidence as to their effects. A small sample research approach to the study of retention was operationally defined as groups of students no larger than 20, with the size varying as a function of the cost of the particular intervention. Attrition data from the University of Maryland, College Park, were used to apply this approach. Major findings were sharp individual differences among the types of students considering withdrawing, as well as the diversity of presenting problem situations. Attrition appeared to be multi-dimensional and highly complex. Interventions that may reduce the attrition rate among one group of students might be ineffective when applied to a different group of students. A plan for reducing attrition is outlined, which includes the following steps: identifying types of interventions and subgroups of target students, devising a series of studies employing different interventions with distinct subgroups of students, implementing the studies of various interventions on a small sample basis with control groups, and evaluating outcomes over at least a 2 to 6 year period in terms of behavioral criteria of retention/attrition. A bibliography is appended. (SW)

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A SMALL "N" INTERVENTION APPROACH TO ATTRITION/RETENTION IN HIGHER EDUCATION

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Research Report # 9-81

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SUMMARY

The literature and typical approaches that have been used to impact attrition rates among college and university students are critiqued, and the limitations of current research approaches discussed. The authors propose a strategy for the identification of different interventions likely to have positive effects on retention rates of different student subgroups. We further describe a small "N" approach to empirically testing these combinations of interventions and student subgroups. Over time this strategy should yield an inventory of interventions with particular subgroups and some corresponding evidence as to their effects.

A Small "N" Intervention Approach to Attrition/Retention in Higher Education

Recent literature reviews estimate that at least three out of every 10 students entering four year institutions of higher education will never earn a baccalaurate degree (Pantages & Creedon, 1978). Average attrition rates also mask important differences among institutions.

These attrition rates are reduced when (a) a long period is allowed for determining graduation rates, and/or (b) a study treats as retained students those who earn their degrees albeit from another school than the one in which they matriculated (Eckland, 1964). However, the continuously occurring nature of attrition in higher education reveals a baserate that has not been very amenable to alteration.

Since the large scale investigation of Iffert (1957), there have been a series of benchmark literature reviews in the retention area. Brief note of their findings is relevant to this presentation. Sumerskill (1962) examined variables associated with persistence and nonpersistence. A number of trends were noted including the following: Constrasted with dropouts, persisters tended to have higher high school grades and academic ability test scores and higher college grades along with more specific vocational plans. Sumerskill's experience offered little encouragement for expecting a single or simple intervention to reduce attrition since there appeared to be so many interacting casual conditions. Cope and Hannah's (1975) review indicated the complexity of the retention/attrition issue, and suggested attrition to be more a symptom of problems than a problem in itself.

Astin's (1977) large scale analysis of financial aid and retention revealed additional complexities: For example, retention was associated with work-study aid, but not with provision of loans. Tinto (1975) provided both a conceptual approach to retention/attrition problems and an emphasis on definitions of types of attrition. Specifically noted was the need to treat separately students who were academically dismissed from students who withdraw. Both Tinto, and Pascarella and Terezzini (1977) emphasized the importance for retention of the students' degree of academic and social integration with the institution. Pantages and Creedon (1978) note the relationship between attrition and advisement, and also suggest the importance of students' integration into campus academic and social life. They cite considerable complexities involved in seeking significant single variables as causes of attrition, and suggest such approaches to be "misguided and ultimately futile".

Another extensive publication resulted from a national survey conducted by the American College Testing Program (ACT) and the National Center for Higher Education Management Systems. The results are reported in the ACT publication by Noel and Beal (1979) entitled What Works in Student Retention. Over 800 returns were received from two and four year institutions regarding interventions used in attempts to improve retention. Programs generating the most enthusiasm appeared to be those emphasizing initial orientation, educational skills, academic support services, advisement and counseling. Unfortunately the tabled brief descriptions of these programs did not provide sufficient empirically derived retention data in support of such programs. Terenzini (1980) examined the inherent weaknesses in the "autopsy" and cross

sectional designs which have been used in attrition studies. Terenzini concludes that longitudinal designs of at least a 15 month duration held the most promise for studies conducted by individual institutions seeking to reduce attrition rates.

The recent state of the retention/attrition literature suggests repetition of similar designs and interventions, with little cumulation of knowledge from one study to another. In terms of outcomes, positive effects are often absent, ambiguous or short-lived. Rarely are several necessary conditions present in these reported efforts. Many represent concerned individuals putting into practice -- at least once, or perhaps twice --some form of an intervention and describing it with some degree of enthusiasm, although rarely presenting research data evaluating the intervention's effects. Often these reports indicate that an intriguing intervention was designed and then applied to the total population of students, thus losing the opportunity to (a) contrast effects of those in the study with a no treatment control group, and (b) employ other interventions with different subgroups so that the differential effects of a variety of programs can be assessed concurrently. In contrast to the poorly designed studies are those investigations rigorously executed, but so complex that even if they proved effective in reducing attrition, their complexity alone would render their widespread use unfeasible. In summary, there appears to have been relatively little useful yield from the large number of published studies concerned with retention interventions.

Background

Collaborative efforts of the authors (Counseling Center colleagues) meeting on a bi-monthly basis for the purpose of examining the extent of the attrition problem on their university campus resulted in a small "N" plan for

approaching the problem of student attrition. Initial discussion led to the brainstorming of plausible answers to the following questions: How do you identify students at risk with respect to attrition? What has been the University's posture in assuming a proactive stance in efforts to reduce attrition? At a more fundamental level, how does one operationally define attrition? Could it be that the global term -- attrition -- actually perpetuates the mistaken notion that attrition is a singular phenomenon, potentially solvable through simplistic means? And, is it not apparent that an indeterminate number of students who leave college without graduating have already engaged in sound -- rather than poor -- problem solving?

The authors learned of the magnitude of the campus' attrition rate from the University's Withdrawal Office by soliciting the data for the 1978-1979 academic year. The total enrollment on the campus as of fall semester, 1978, approximated 38,000 students. Attrition rates were as follows: Withdrawals (left within a term) 3391; dropouts (left after completing a term) 7383 and academic dismissals 2500. Thus one full year's data yielded a 35 percent attrition rate -- roughly corresponding to the estimated 40 percent attrition rate for public colleges and universities.

Two additional means of gathering data were carried out by the authors which eventually led to our small "N" approach to the problem of student attrition: (a) A number of campus community members, knowledgeable about the problem of retention, and/or actively engaged in retention efforts were surveyed as to their view of the attrition problem and (b) Counseling Center staff members from all divisions of the Center were surveyed regarding their recollections of their contacts with former clients who had been considering leaving the University. The counselors completed a retention log sheet

followed by a structured interview aimed at supplying information on the nature of the student's problem situation (e.g., primary reason for considering withdrawing), the specific action that the staff counselor undertook on behalf of the student, the identification of any environmental problems, procedures and or persons contributing to the student's dilemma, and lastly the actual disposition of the case. Space was also provided for the counselor's assessment of the consequences of his/her interaction with the student with regard to retention/attrition (e.g., Did the student stay registered, withdraw, dropout, receive an academic dismissal or return to register for the subsequent semester?).

As a result 44 retention-related student cases were described in varying detail: 48% of the cases were female. One-third of the students were freshmen. the cases encomposed all levels of collegiate study and every academic division of the campus. Grade point averages ranged from 0.5 to 3.9 on a 4 point scale. Eighty percent of all cases were Caucasian, 18% Black and one percent of other racial identity.

The modest results from the host of past interventions designed to reduce attrition rates suggest that either current attrition baserates cannot be reduced or that the research interventions to date are not sufficiently powerful. Molecular interventions often appear to have negligible effects on prevailing attrition rates. On the other hand, "total push" attrition interventions are not helpful since it is impossible to determine what part of the intervention had what effects on which students. Further study is warranted, but of what nature? An alternative strategy to past molecular efforts would be a series of diverse interventions packaged singly or in combination, which have demonstrated some power to affect attrition rates. This article describes a

systematic approach to determining what interventions will increase the retention rates of certain categories of college students.

The most notable impression gained from the review is that of inefficiency - too few interventions are tested under controlled conditions. An essential feature of increased efficiency involves utilizing small sample research methods.

In the author's view a small "N" research approach to the study of retention is operationally defined as groups of students no larger than 20 in total, with the size varying as a function of the costliness of the particular intervention. Application of one intervention at a time to small clusters of students prevents confounding effects which occur when an intervention having the power to retard attrition rates among a given group of students is applied to all students. Equally unproductive is the simultaneous application of a potentially powerful intervention and an intervention of little or no consequence. Results in this case are likely to cloud the true power of one intervention and artificially heighten the effects of the other. Conducting several small "N" studies concurrently allows for the gathering of a large pool of data as to the effectiveness of each intervention applied to a specific target group in relatively short intervals of time.

Of the 44 students seeking counseling, 59% stayed enrolled; 25% withdrew and seven percent dropped out. The subsequent status of nine percent of the cases was unknown. Time management was the most frequently reported academic skills problem associated with the students' plans to withdraw. Environmental constraints receiving the highest frequencies were conflicts with parents and family and lack of academic advisement.

Summary results from the retention log sheets provided the basis for subsequent discussion and brainstorming sessions among the authors. The most striking findings were the sharp individual differences among the types of students considering withdrawing, as well as the diversity of presenting problem situations. Findings supported our emerging hypothesis that attrition was indeed multi-dimensional and highly complex. Hence interventions having the power to reduce the attrition rate among one group of students might prove ineffective when applied to a different group of students. The authors then set about the process of designing an approach that would provide viable answers to the question of: What type of intervention, with which group of students, under what conditions, and at what point in time would be most powerful in retarding attrition rates?

A Step-Wise Plan

The following procedures present in step-wise fashion the stages considered central in efforts designed to reduce attrition rates among distinct groups of college students:

Step (1) Generate a pool of information concerning attrition and retention from (a) review of relevant literature and (b) discussions and a brainstorming session with knowledgeable campus members with the view of achieving the following two primary objectives:

(a) Identifying an array of specific interventions which appear potentially useful in reducing attrition rates among given subgroups of students; and

(b) Developing grids or categories that depict arrays of different subgroups of students with whom certain interventions have been used, or appear to warrant usage.

Step (2) Devise a series of research studies employing different interventions with distinct subgroups of students. Where possible hold the subgroups of small "N" clusters constant, vary the different interventions and record effects.

Step (3) Enlist the cooperation of campus offices, individuals and or programs without whose cooperation the implementation of these studies would not be feasible.

Step (4) Implement the studies of various interventions on a small "N" basis with control groups. Conduct several small "N" studies concurrently.

Step (5) Closely evaluate outcomes over at least a two-six year period in terms of behavioral criteria of retention/attrition.

Step (6) Assess the results from all of the small "N" studies with the expectation that (a) some interventions will have positive effects and lend themselves to wider use, (b) some will have inconclusive effects and warrant refinement, restudy and or discarding or (c) some will have inconsequential effects and warrant redesigning, discarding and or application to a different target group of students. The above assessments should allow for optimal combining and sequencing of multiple interventions for various subgroups.

Of parallel importance to the identification of various interventions is the identification of multiple subgroups of target students. Discrete categories of students can be defined in ways suggestive of likely interventions. The grid of subgroups can be generated by conceptualizing groups of students dichotomously, or according to variables likely to hold potential gain either for the individual student, the institution or society in general. For

example: Grids can be constructed that include subgroups of students traditionally demonstrating high levels of attrition; groups which are easily accessible for treatment; those that represent first generations or family members attempting the collegiate experience; or groups where retention should have high personal yield for the individual (e.g., seniors who are considering withdrawing from the institution) and so on. Dichotomized dimensions might include some of the following categories of students: lower division vs. upper division; minority vs. majority; resident vs. commuter; low income vs. high income; low academic ability vs. high academic ability; part-time vs. full-time students; male vs. female; and traditional college-aged students vs. continuing education students.

Although literature concerning retention/attrition issues has produced findings which are often conflicting and or ambiguous, many articles clearly describe potentially useable interventions (Hoyt, 1978; Pantages & Creedon, 1978; Tinto, 1975). Thus time can be profitably devoted to the classification of the literature into suggestive target groups of students, as well as easily administered interventions. The small "N" approach to retention stresses the need for practicable interventions with respect to time, cost and feasibility of administration. Given that actual interventions should follow from presumed, or possible documented needs of a given group of students, the range of possible interventions should be quite wide. Interventions as simplistic as a letter informing parents as to likely experiences that their children might encounter on a college campus might prove to be a critical intervention in retaining students who represent the only members of their family to attend an institution of collegiate study. At the other extreme, with respect to time/cost benefits, might be such interventions as the conducting of small

discussion groups by the counseling center staff, orientation office, graduate students, etc., for entering minority or foreign students. In short, the essential tasks, include the designation of definable target groups of students, the brainstorming of possible factors rendering a given group of students vulnerable to attrition, the designing of creative interventions likely to retard their attrition rates and the rigorous testing of effects.

Conclusion

Despite extensive research effort and program development in the area of retention, relatively little impact has been made on prevailing attrition rates. Large scale efforts that approach retention in wholistic terms are suspect in this regard. Confounding the situation still further is the term attrition itself. Attrition has been used to denote those students who transfer to other institutions of higher education; those who "stop-out" at some stage in their college experience; students who officially withdraw from the institution as well as those who simply collect their belongings and leave -- never to return to that or any other institution.

Declining collegiate enrollments foretold by educational planners are already evident on some college and university campuses. Recent projections (Chronicle of Higher Education, 1980), suggest a sharp reduction in the total number of high-school graduates in all but 10 states between the years 1979 to 1995. While the average projected decline during this period approximates 30 percent, projections for states along the eastern seaboard, and in the midwest range from 40 percent to a high of 59 percent. Given anticipated decreases in enrollment, as a function of economics and a reduction in the sheer number of persons seeking the collegiate experience, it is reasonable for institutions of higher education to invest in efforts designed to retain those individuals already involved in the collegiate experience.

As mentioned earlier, it is quite true that not every individual who enters higher education should remain there. On the other hand, it is rather irresponsible for an institution to adapt to its own attrition rate as though its past and present magnitude was inevitable. As described above, the small "N" approach to the attrition/retention dilemma should enable us to have substantive knowledge as to what interventions in what sequence or combination would appear to increase retention rates for what subgroups of students and under what conditions. To be in such a position would be useful now -- it may be essential in the future. Our review to date suggests that this approach has received little if any attention as a response to the ever present attrition rates in higher education.

References

Astin, A. Four critical years. San Francisco: Jossey-Bass, 1977.

Chronicle of Higher Education. Changing numbers of high-school graduating classes. Fact-File, January 7, 1980.

Cope, R., & Hannah, W. Revolving college doors: The causes and consequences of dropping out, stopping out and transferring. New York: Wiley, 1975.

Eckland, B. K. College dropouts who came back. Harvard Educational Review, 1964, 34, 402-420.

Hoyt, D. P. A retrospective and prospective examination of retention-attrition research. New directions for student services. San Francisco: Jossey-Bass, 1978.

Iffert, R. Retention and withdrawal of college students. Washington, D. C.: Superintendent of documents, U. S. Office of Education, 1957.

Noel, L., & Beal, P. Reducing the dropout rate. A compilation of related retention programs/activities taken from the 1979 survey, "What Works in Student Retention (WWSR)." Iowa City, Iowa: American College and Testing Program, 1979.

Pantages, T. J., & Creedon, C. F. Studies of college attrition: 1950-1975. Review of Educational Research, Winter, 1978, 48, 49-101.

Pascarella, E., & Terenzini, P. T. Patterns of student faculty informal interaction beyond the classroom and voluntary freshman attrition. Journal of Higher Education, 1977, 48, 540-552.

Sumerskill, J. Dropouts from college. In N. Sanford (Ed.) The American College. New York: Wiley, 1962.

Terenzini, P. T. An evaluation of three basic designs for studying attrition. Journal of College Student Personnel, 1980, 21, 3, 257-263.

Tinto, V. Dropouts from higher education: A theoretical synthesis of resent research. Review of Educational Research, 1975, 45, 89-125.